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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/606,505	06/29/2000	David Black	07072-112001	7480

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DALY, CROWLEY & MOFFORD, LLP
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275 TURNPIKE STREET
CANTON, MA 02021-2310

EXAMINER

NGUYEN, MIKE

ART UNIT

PAPER NUMBER

2182

DATE MAILED: 08/12/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/606,505	BLACK ET AL.
	Examiner Mike Nguyen	Art Unit 2182

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 22 May 2003.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-16 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-16 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.
 If approved, corrected drawings are required in reply to this Office action.
 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.
 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 a) The translation of the foreign language provisional application has been received.
 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) Notice of References Cited (PTO-892) 4) Interview Summary (PTO-413) Paper No(s). _____.
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) Notice of Informal Patent Application (PTO-152)
 3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____. 6) Other: _____

DETAILED ACTION

1. Applicant's amendment filed on 05/22/2003 in response to Examiner's Office Action has been reviewed. The following rejections now apply.
2. Claims 1-16 are pending for the examination.

Double Patenting

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4. Claims 1, 5, 9, and 13 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of copending Application No. 09/540,828, 09/539,966, and 09/540,825 in view of Baum et al. (U.S. Pat. No. 5,166,674). Although the conflicting claims are not identical, they are not patentably distinct from each other because "a command field" would not have been obvious to be included in the system interface in order to indicate whether the directors receiving the message or not.

This is a provisional obviousness-type double patenting rejection.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martin et al. (U.S. Pat. No. 5,214,768) further in view of Baum et al. (U.S. Pat. No. 5,166,674).

6. As per claims 1 and 9, Martin teaches a data storage system for transferring data between a host computer/server and a bank of disk drives through a system interface (see figure 1 elements 12, 42, 48), such system interface comprising:

a plurality of first directors coupled to the host computer/server (see figure 1 elements 14, 16, 18, 19 and column 5 lines 20-26);

a plurality of second directors coupled to the bank of disk drives (see figure 1 element 48 and column 5 lines 49-58);

a data transfer section coupled to the plurality of first directors and second directors (see figure 2 elements 82, 92 and column 7 lines 25-34 and figure 7 and column 14 lines 4-18);

a message network coupled to the plurality of first directors and the plurality of second directors, such first and second directors controlling data transfer between the host computer and the bank of disk drives in response to messages passing between the directors through the message network as such data passes through the data transfer section (see figures 1 element 40 and column 5 lines 63-68 and column 6 lines 1-15 and column 9 lines 29-44); and

Although the system interface taught by martin shows substantial features of the claimed invention (discussed above), it fails to explicitly teach: a descriptor having a command field indicating the one or ones of the directors which are to receive such message, such command field having a plurality of bits, each bit being associated with a corresponding one of the

directors, one logic state of such bit indicating that such corresponding director is to receive the message and another logic state of such bit indicating that corresponding director is to receive such message. Baum; however, teaches each one of such message transferred through the message network is associated with a descriptor (see figure 1 element "PACKET FORMAT"), such descriptor having a command field indicating the one or ones of the directors which are to receive such message, such command field having a plurality of bits, each bit being associated with a corresponding one of the directors, one logic state of such bit indicating that such corresponding director is to receive the message and another logic state of such bit indicating that corresponding director is to receive such message (see figure 11 and column 11 lines 50-68 and column 12 lines 1-51). Given the teaching of Baum, a person having ordinary skill in the art would have readily recognized the desirability and advantages of modifying Martin by employing the well-known or conventional feature of the data storage system, such as taught by Baum, in order to indicate whether the directors receiving the message or not.

7. As per claims 2 and 10, Martin teaches the data storage system recited in claim 1 wherein the message network transmits each message sequentially to a plurality of the directors (see column 5 lines 63-68 and column 1-15)

8. As per claims 3 and 11, Martin fails to explicitly to teach: a mask having a plurality of bits, each one of such bits of the mask being associated with a corresponding one of the directors, each one of the bits indicating the an availability or unavailability of the corresponding one of the directors. Baum; however, teaches each one of the directors has a mask stored therein, such mask having a plurality of bits, each one of such bits of the mask being associated with a corresponding one of the directors, each one of the bits indicating the an availability or

unavailability of the corresponding one of the directors (see figure 10 and column 8 lines 41-68 and column 9 lines 1-49). Given the teaching of Baum, a person having ordinary skill in the art would have readily recognized the desirability and advantages of modifying Martin by employing the well-known or conventional feature of the data storage system, such as taught by Baum, in order to indicate the availability or unavailability of the directors.

9. As per claims 4 and 12, Martin fails to explicitly to teach: the message network compares the command field of a message to be transmitted with the mask and sequentially transmits the message to only those directors which are indicated by the mask as being available. Baum; however, teaches the message network compares the command field of a message to be transmitted with the mask and sequentially transmits the message to only those directors which are indicated by the mask as being available (see figure 11 and column 11 lines 50-68 and column 12 lines 1-51). Given the teaching of Baum, a person having ordinary skill in the art would have readily recognized the desirability and advantages of modifying Martin by employing the well-known or conventional feature of the data storage system, such as taught by Baum, in order to ensure the message transmitting to directors.

10. As per claims 5 and 13, Martin teaches a method for transferring data between a host computer/server and a bank of disk drives through a system interface (see figure 1 elements 12, 42, 48), such system interface comprising: a plurality of first directors coupled to the host computer/server (see figure 1 elements 14, 16, 18, 19 and column 5 lines 20-26); a plurality of second directors coupled to the bank of disk drives (see figure 1 element 48 and column 5 lines 49-58); a data transfer section coupled to the plurality of first directors and second directors (see figure 2 elements 82, 92 and column 7 lines 25-34 and figure 7 and column 14 lines 4-18); and a

message network coupled to the plurality of first directors and the plurality of second directors, such first and second directors controlling data transfer between the host computer and the bank of disk drives in response to messages passing between the directors through the message network as such data passes through the data transfer section (see figures 1 element 40 and column 5 lines 63-68 and column 6 lines 1-15 and column 9 lines 29-44);

Although the system interface taught by martin shows substantial features of the claimed invention (discussed above), it fails to explicitly teach: a descriptor having a command field indicating the one or ones of the directors which are to receive such message, such command field having a plurality of bits, each bit being associated with a corresponding one of the directors, one logic state of such bit indicating that such corresponding director is to receive the message and another logic state of such bit indicating that corresponding director is to receive such message. Baum; however, teaches associating with each one of such message transferred through the message network, a descriptor (see figure 1 element "PACKET FORMAT"), such descriptor having a command field indicating the one or ones of the directors which are to receive such message, such command field having a plurality of bits, each bit being associated with a corresponding one of the directors, one logic state of such bit indicating that such corresponding director is to receive the message and another logic state of such bit indicating that corresponding director is to receive such message (see figure 11 and column 11 lines 50-68 and column 12 lines 1-51). Given the teaching of Baum, a person having ordinary skill in the art would have readily recognized the desirability and advantages of modifying Martin by employing the well-known or conventional feature of the data storage system, such as taught by Baum, in order to indicate whether the directors receiving the message or not.

11. As per claims 6 and 14, Martin teaches the method recited in claim 5 including transmitting each message sequentially to a plurality of the directors (see column 5 lines 63-68 and column 1-15)

12. As per claims 7 and 15, Martin fails to explicitly to teach: a mask having a plurality of bits, each one of such bits of the mask being associated with a corresponding one of the directors, each one of the bits indicating the an availability or unavailability of the corresponding one of the directors. Baum; however, teaches each one of the directors has a mask stored therein, such mask having a plurality of bits, each one of such bits of the mask being associated with a corresponding one of the directors, each one of the bits indicating the an availability or unavailability of the corresponding one of the directors (see figure 10 and column 8 lines 41-68 and column 9 lines 1-49). Given the teaching of Baum, a person having ordinary skill in the art would have readily recognized the desirability and advantages of modifying Martin by employing the well-known or conventional feature of the method, such as taught by Baum, in order to indicate the availability or unavailability of the directors.

13. As per claims 8 and 16, Martin fails to explicitly to teach: compared the command field of a message to be transmitted with the mask and sequentially transmits the message to only those directors which are indicated by the mask as being available. Baum; however, teaches each one of the directors compares the command field of a message to be transmitted with the mask and sequentially transmits the message to only those directors which are indicated by the mask as being available (see figure 11 and column 11 lines 50-68 and column 12 lines 1-51). Given the teaching of Baum, a person having ordinary skill in the art would have readily recognized the desirability and advantages of modifying Martin by employing the well-known or conventional

feature of the method, such as taught by Baum, in order to ensure the message transmitting to directors.

Response to Arguments

14. In response to the applicant's arguments that Baum does not teach "such descriptor having a command field indicating the one or ones of the directors which are to receive such message, such command field having a plurality of bits, each bit being associated with a corresponding one of the directors, one logic state of such bit indicating that such corresponding director is to receive the message and another logic state of such bit indicating that corresponding director is to receive such message" and "such command field having a plurality of bits, each bit being associated with a corresponding one of the directors, one logic state of such bit indicating that such corresponding director is to receive the message and another logic state of such bit indicating that corresponding director is to receive such message". Examiner disagrees, in figure 11 and column 11 lines 50-68 and column 12 lines 1-51 indicates that a packet format (descriptor) has a 5 bit command indicating how to handle the packet, an 8 bit sequence number field identifying which packet number of the total packet count in the message has been received, a 15 bit destination address field is used to route packet to proper address of processing element, and a 15 bit source address field is used to return the packet to the originating processing element in a case where an unavailable processing element number appears in the destination address field and properly address any response to the message.

Therefore, it is obvious~~ly~~ ^{has the} the packet format (descriptor) having above features.

Conclusion

15. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Pat. No. 6,418,496 B1 (Pawlowski et al.)

U.S. Pat. No. 5,745,790 (Oskouy)

U.S. Pat. No. 5,551,048 (Steeley)

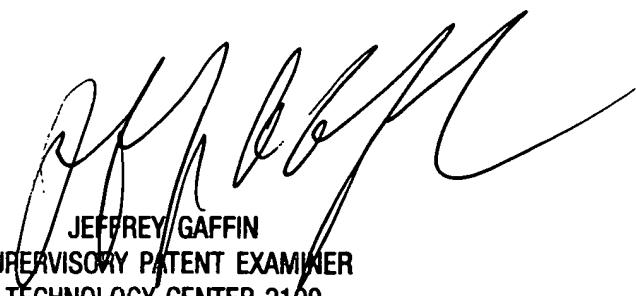
17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mike Nguyen whose telephone number is (703) 305-5040 or e-mail is mike.nguyen@uspto.gov. The examiner can normally be reached on Monday through Friday from 8:00 AM to 5:00 PM.

The appropriate fax number for the organization where this application or proceeding is assigned is (703) 746-7240.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Jeffrey Gaffin, can be reached on (703) 308-3301.

Any inquiry of a general nature or relating to the status of this application should be directed to the group receptionist whose telephone number is (703) 305-3900.

Mike Nguyen
Patent Examiner
Group Art Unit 2182



JEFFREY GAFFIN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100

08/07/2003